

IN THE SPECIFICATION:

Heading at line 1 of page 1 has been amended as follows:

BACKGROUND OF THE ~~INVENTION~~ INVENTION

Please insert the following new heading on page 1, between lines 1 and 2:

Field of the Invention

Please insert the following new heading on page 1, between lines 6 and 7:

Background Information

Paragraph beginning at line 7 of page 1 has been amended as follows:

There is used a scanning probe microscope (SPM) represented by a scanning tunnel microscope (STM) or an atomic force microscope (AFM) for observing a very small area of a nanometer order at a surface of a sample. Although SPM can acquire an image of a resolution dependent on a shape of a front end of a probe by scanning a probe having a sharpened front end at a surface of a sample with via interactive operation produced between the probe and the surface of the sample such as tunnel current or atomic force as an object of observation, a restriction imposed on the sample to be observed is comparatively severe.

Paragraph beginning at line 14 of page 2 has been amended as follows:

~~Not only use as the~~ In addition to use as a microscope, ~~but~~ there is enabled an application as high density optical storage recording in which by introducing light having a comparatively large density toward a sample via an optical fiber probe, near field light having a high energy density is produced at an aperture of the optical fiber probe and a structure or a physical property of the surface of the sample is locally changed by the near field light. There has been carried out a trial of enlarging a front end angle of the front end of the probe to acquire near field light having a large intensity.

Paragraph beginning at line 24 of page 2 has been amended as follows:

According to the devices utilizing near field light, formation of the aperture is most important. As one of methods of fabricating the aperture, there is known a method disclosed in Japanese Patent No. 21201-1993. In this ~~case, as a sample~~ method, for forming an aperture, there is used a ~~constitution~~ depositing an optical shielding film is deposited on a sharpened light waveguide. According to the method of fabricating the aperture, by pressing the sharpened light waveguide having the optical shielding film ~~to~~ against a hard

flat plate by a very small amount and in a controlled manner
using of pressing excellently controlled by a piezoelectric actuator, the optical shielding film at the front end is subjected to plastic deformation.

Paragraph beginning at line 10 of page 3 has been amended as follows:

Further, as a method of forming an aperture, there is a method disclosed in Japanese Patent Laid-Open No. 265520/1999. According to the method of fabricating the aperture, an object of forming the aperture is a front end of a projection formed on a flat plate by focused ion beam (FIB). The method of forming the aperture is carried out by irradiating FIB from a side face to a an optical shielding film at the front end of the projection to thereby remove the optical shielding film at the front end of the projection.

Paragraph beginning at line 19 of page 3 has been amended as follows:

However, according to the method of Japanese Patent No. 21201/1993, the aperture can be formed respectively for only a single piece of light waveguide. Further, according to the method of Japanese Patent No. 21201/1993, the amount of pressing ~~needs to control~~ must be controlled by the piezoelectric actuator having several nm of movement resolution and, accordingly, an the aperture forming apparatus

must be placed under an environment having insignificant influence by other apparatus or vibration of air. Further, ~~time is taken for adjusting to bring the procedure for bringing~~ a light carrier rod into orthogonal contact with the flat plate is time consuming. Further, a mechanical translation base having a large moving amount is needed other than the piezoelectric actuator having a small moving amount. Further, a control apparatus is needed ~~in controlling the amount of pressing by using to control the pressing amount by~~ the piezoelectric actuator having the small movement resolution, ~~further, and~~ a time period of several minutes is required to control ~~taken for controlling~~ the amount of pressing to thereby form the aperture. Therefore, there are needed large-scaled apparatus such as a high voltage power source and a feedback circuit for fabricating the aperture. As a result of the foregoing, the ~~Further, there poses a problem that~~ cost for forming the aperture is high increased.

Heading at line 18 of page 9 has been amended as follows:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT
EMBODIMENTS

Paragraph beginning at line 3 of page 10 has been amended as follows:

Fig. 1 is a schematic sectional view showing an outline constitution of a workpiece 1000. A transparent layer

5 is formed on a substrate 4, a tip 1 of a conical or pyramidal shape and a stopper 2 in a ridged shape are formed on the transparent layer 5 and a an optical shielding film 3 is formed above the tip 1, the stopper 2 and the transparent layer 5. Further, in the workpiece 1000, the transparent layer 5 is not necessarily needed and in that case, the optical shielding film 3 is formed on the tip 1, the stopper 2 and the substrate 4. Further, the optical shielding film 3 may be deposited only on the tip 1.

Paragraph beginning at line 7 of page 17 has been amended as follows:

Further, by summarizingly exerting the force F to a sample fabricated with a plurality of pieces of the workpieces 1000, a plurality of pieces of the aperture 8 having a uniform aperture diameter can also be fabricated in one operation. When the apertures 8 are summarizingly fabricated in this manner, a time period of fabricating a single piece of the aperture becomes as very short as several hundreds milliseconds or shorter although depending on a number of the workpieces 1000 per sheet of wafer.

Paragraph beginning at line 23 of page 30 has been amended as follows:

Further, even when the substrate 4 is wavy, the method according to the foregoing embodiment is also naturally applicable. similarly